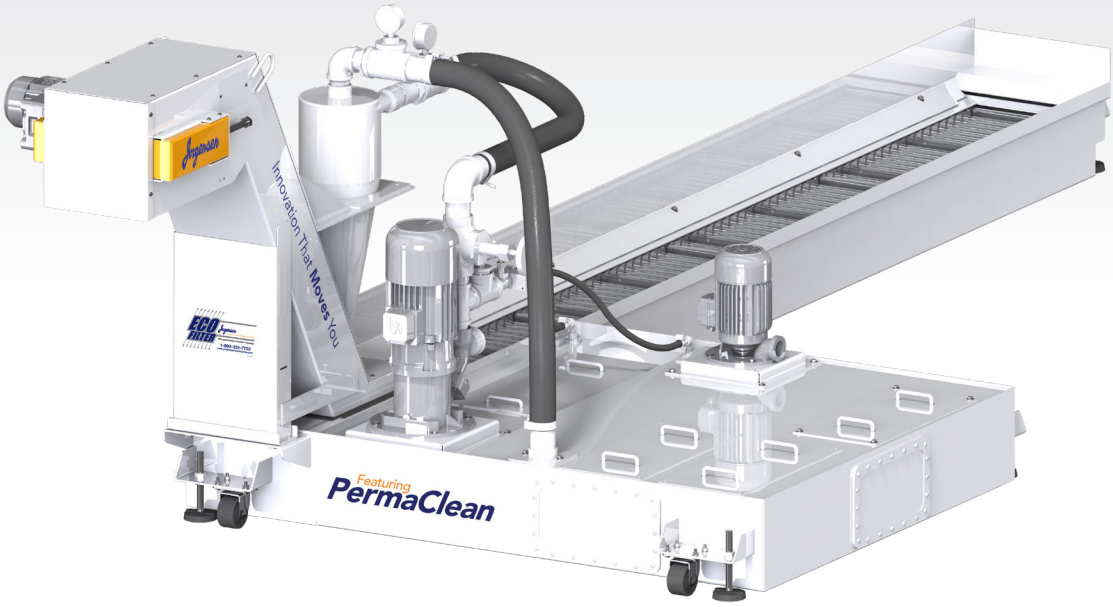
PermaClean

Coolant tank system to eliminate sludge and drastically reduce maintenance costs

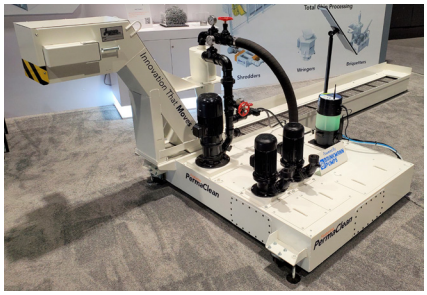


Upgrade to a PermaClean system for a continuously clean tank

PermaClean modular systems are available with cyclonic, gravity media, and bag filters to best fit each machining application.

OPTIONS

- Automated coolant monitoring and refilling systems
- Hinged steel belt, drag flight, or Mag-Drag conveyors
- EcoFilter 80 or 200
- Cyclonic filter
- Gravity media filter
- Bag filters
- High pressure pumps



Integrate cyclonic filtration, PermaClean, and automated coolant management to deliver a fully automated solution for lights-out machining.

BENEFITS

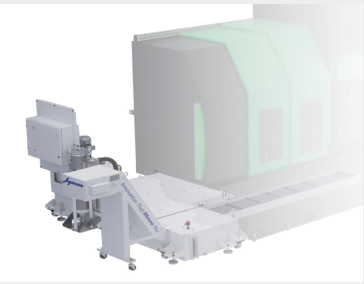
- Eliminates downtime for tank maintenance
- Improved pump, tooling and coolant life
- Improved part finish/part accuracy
- Environmentally friendly and cost effective with little to no consumables required
- Reduced coolant waste
- Maximizes efficiency of coolant filtration down to 5 micron nominal
- Consistent and accurate coolant quality

APPLICATIONS

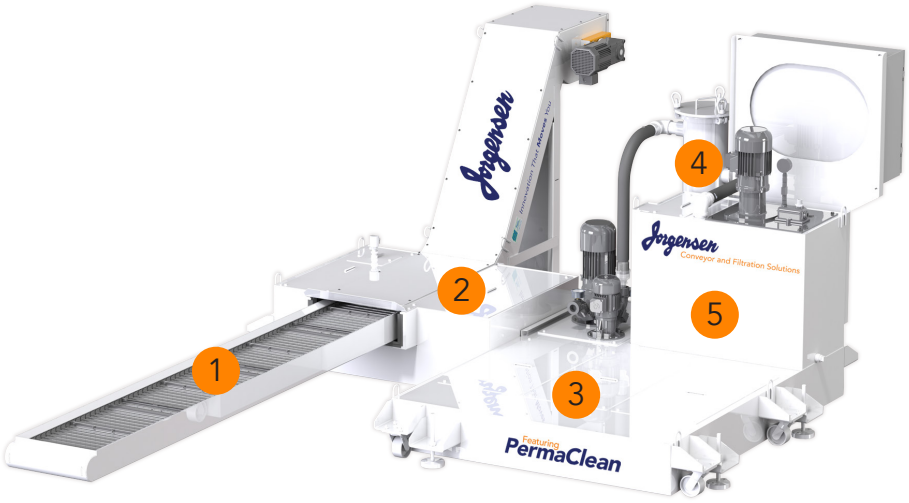
PermaClean excels in many machine tool applications requiring precise coolant filtration. PermaClean can be added to integrated or standalone FlexFiltration systems in applications such as:

- Highly automated processes
- Lights-out machining
- Central coolant systems
- 5-axis machining, grinding, milling, drilling, and more
- Aerospace, automotive, defense, medical, machine shops, contract manufacturing

PERMACLEAN FLEXFILTRATION SYSTEMS



For more information on PermaClean in the field, check out our white paper.



HOW IT WORKS

1. Chips and coolant enter the EcoFilter's conveyor's load section. Large to mid-sized chips are carried out by the hinged or scraper belt.
2. Fine chips and filtered coolant flow through the filter cell, out of the side of the conveyor and into the primary coolant tank.
3. PermaClean's eductor nozzles lift debris from the bottom of the tank, suspending chip particulates for further filtration.
4. Coolant is pumped through secondary filtration such as cyclonic filters, bag filters, or gravity media.
5. Clean coolant enters the secondary ultra-clean tank with the required micron clarity for reuse in the machine tool.

RETURN ON INVESTMENT

- If a company cleans their tank 4 times a year and spends 20 hours each time, at a $60 hourly wage or cleaning fee, that adds up to $4,800 in cleaning costs for the year.
- The potential lost production for the machine to shut down for cleaning, based on a $100 hourly production rate, is about $8,000.
- To refill a 250 gallon tank with a 10% concentration mix, at an average coolant cost of $35 per gallon. The coolant cost would be $875. Changing coolant an average of 4 times per year, the total annual cost is about $3,500
- PermaClean can reduce or eliminate this annual estimated cost of **$16,300** per machine.
- **The payback for PermaClean® can be very quick!**

FlexFiltration systems equipped with PermaClean significantly reduce downtime and labor hours required for frequent tank cleaning.

Check out our website for a complete product list and more information.

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